

A New Species of *Asplenium* from Guatemala

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Asplenium is one of the largest and most interesting genera of ferns in the neotropics. Many of its species are distinctive and quite easy to identify, but a few others, notably *A. auritum* Swartz, *A. cuspidatum* Lam., and *A. radicans* L., are so highly variable that intensive monographic studies will be required to define their specific and infraspecific limits. During my studies of the genus for the "Ferns and Fern Allies of Guatemala," a total of 40 species (including a number of varieties) have been recognized in this small Central American country. One of these is new.

***Asplenium williamsii* Stolze, sp. nov.**

Figs. 1-4.

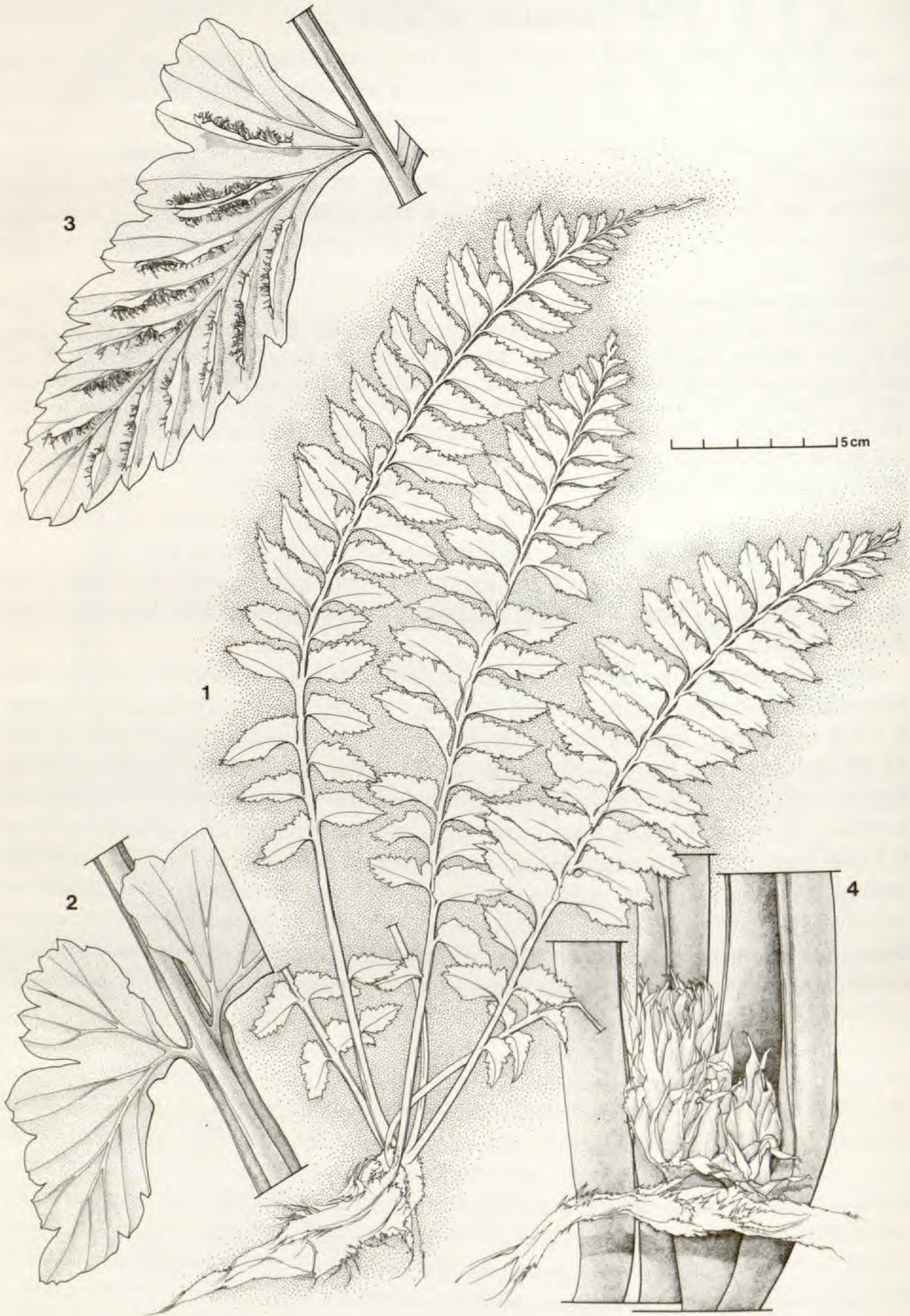
Rhizoma erecta, paleacea; paleae lanceolatae vel lineares, fuscae, clathratae, 4-6 mm longae, 0.5-0.8 mm latae, plerumque attenuatae; folium pinnatum, 15-45 cm longum, 4-6 cm latum, ad apicem pinnatifidum vel serratum gradatim decrescens; petiolus 4-9 cm longus, plumbeus vel fuscus, anguste vel late alatus; pinnae 14-20(22)-jugae, obtusae vel subacutae, serratae vel biserratae; venae acroscopicae plerumque 1-furcatae, venae basiscopicae simplices; sori lineares, 3-8 mm longi, 0.5-0.8 mm lati, 1-2 sori proximales diplazioides.

TYPE: Terrestrial in cloud forest, Montaña Canahui, Depto. El Progreso, Guatemala, alt. 1,600-2,300 m, *Steyermark 43791* (US; isotype F).

In wet forests, commonly on the forest floor, but rarely epiphytic, 1,250-2,300 m; Alta Verapaz; Baja Verapaz; El Progreso; El Quiché; San Marcos; Santa Rosa. Mexico (Chiapas).

Plants terrestrial, rarely epiphytic; rhizome stout, erect, amply provided with lanceolate or linear, lustrous, grey-brown, clathrate scales, these 4-6 mm long, 0.5-0.8 mm broad, mostly attenuate; leaves pinnate, subcaespitose, mature ones 15-45 cm long, 4-6 cm broad; petiole stout, 4-9 cm long, much shorter than the lamina, dull grey or grey-brown, glabrous, abaxially terete, adaxially flattened and narrowly to broadly green-alate (especially toward the lamina), each of the wings 0.3-0.8 mm broad; lamina linear to narrow-elliptic, glabrous, thin- to firm-membranaceous, slightly reduced at base, gradually reduced to a pinnatifid or serrate apex, not proliferous; rachis glabrous, dull grey or reddish brown, green-alate throughout; pinnae 14-20(22) pairs, the middle ones 2-3.5 cm long, 0.8-1.5 cm broad, sessile to short-stalked, spreading to slightly ascending, approximate to subdistant, oblong to lanceolate, obtuse to subacute, inequilateral at the base, basiscopically cuneate or excavate, acroscopically truncate and often auriculate or subauriculate, the margins obtusely or subacutely serrate to biserrate; veins on the acroscopic side commonly once-forked, the basal one twice-forked, the distal ones and those of the basiscopic side simple, distinct adaxially, indistinct abaxially, the tips not or scarcely enlarged, ending well short of the margin; sori relatively long, often nearly reaching from midrib to margin (but tending to be more inframedial), linear, straight to slightly curved, 3-8 mm long, 0.5-0.8 mm broad, 1-2 proximal ones commonly double (diplazioid); indusium delicate, linear, pale yellowish to light brown, or hyaline, subentire.

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SELECTED SPECIMENS EXAMINED:

MEXICO: Chiapas: Ridge along logging road from Las Margaritas to Campo Alegre, Municipio La Independencia, elev. 2,300 m, *Breedlove 33685* (DS, F). **GUATEMALA: Alta Verapaz:** Epiphytic, Cobán, 1,350 m. *Tuerckheim II-1853* (US). **Baja Verapaz:** Epiphytic, broadleaf montane cloud forest, Sierra de las Minas, 3 km SE of Purulhá, alt. 1,800 m, *L. O. Williams et al. 43279* (F). **El Quiché:** San Miguel Uspantán, alt. 6,000 ft, *Heyde & Lux 3235-B* (US). **San Marcos:** On forest floor; slopes of Tajumulco Volcano, 8-10 km west of San Marcos, alt. ca. 2,300 m, *L. O. Williams et al. 26853* (F). **Santa Rosa:** Santa Rosa, alt. 4,000 ft, *Heyde & Lux 3234* (US, in part; another sheet of this at US is *A. abscissum* Willd.)

This is rather closely related to the neotropical species of *A. harpeodes* Kunze, *A. miradorensis* Liebm., and *A. pteropus* Kaulf. All, in turn, form part of a larger complex of New and Old World species related to *A. erectum* Bory ex Willd., the latter reputed to be confined (at least in the strict sense) to the Old World. These taxa form a confusing tangle of species and/or varieties, which will be unraveled only when collections and types from around the world are brought together for comparison. So it is with some reluctance that I describe yet another species (albeit a distinct one), thus adding one more name to the complex.

Characters which are most useful in separating *A. williamsii* from its nearest relatives are the lustrous, grey-brown rhizome scales, which are 4-6 mm long, the conspicuously alate petiole and rachis, the relatively few (14-20) obtuse to subacute pinnae with mostly biserrate margins, veins which are commonly (acroscopically) once-forked, and the sori, most of which are very long and crowd the costa. An even more significant feature is the common occurrence of back-to-back (diplazoid) sori, which are borne usually on the basal acroscopic vein.

Asplenium harpeodes has castaneous or reddish brown scales with usually filiform tips, nonalate petioles, and numerous attenuate pinnae with mostly simple veins and marginal serrations. *Asplenium miradorensis* has dull, reddish brown scales only 2-3 mm long, 20-35 pairs of pinnae, and relatively short, medial sori. *Asplenium pteropus* has the conspicuously alate petiole and rachis of *A. williamsii*, but the rhizome scales are castaneous to dark brown, the 20-30 pairs of pinnae are simply serrate and simple-veined, and the sori are relatively short and medial.

The new species is named in honor of Dr. Louis O. Williams, former chairman of the Department of Botany at the Field Museum, whose field work and publications form the backbone of the "Flora of Guatemala" project.

FIGS. 1-4. *Asplenium williamsii*. FIG. 1. Habit, $\times 1/2$. FIG. 2. Base of lamina showing reduced basal pinnae and alate petiole, $\times 3$. FIG. 3. A central pinna with a double sorus, $\times 3$. FIG. 4. Portion of rhizome and cluster of scales among petiole bases, $\times 3$.